

U.S. Serial No. 10/004,066

Attorney Docket No. P04085US0

REMARKS**A. Overview**

Claims 1-4, 6-10, 12-28, 30, 32-50 and 52-63 are pending in this application. The present response is an earnest effort to place all claims in proper form for allowance, or at least place the application in better form for appeal. Entry of this response and reconsideration of the application are respectfully requested.

B. Rejections under 35 U.S.C. § 103

The sole basis for rejection of the application is on the grounds of obviousness. The references asserted are:

- (1) "Trase Operating Instructions" (hereinafter "Trase ")
- (2) allegedly "applicant's admitted prior art" (hereinafter "the alleged admission")
- (3) Hunter U.S. Patent 5,893,218 (hereinafter "Hunter")
- (4) Hook U.S. Patent 5,376,888 (hereinafter "Hook").

The first obviousness rejection rejects claims 1-4, 6-10, 12-15, 22-28, 30, 32-50 and 52-63 on the basis of Trase or the alleged admission in view of Hunter. The second rejects claims 16-21 on the basis of Trase in view of Hunter and further in view of Hook. Obviousness is determined from the view point of (a) what the state of the art would suggest to (b) a person of ordinary skill in the art. Applicant respectfully traverses these rejections and earnestly requests reconsideration based on the following points.

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1. The State of the Art

The claims relate to control of an automated process of drying grain and seed, whether or not separated from a carrier or other vegetative structure. Applicants' specification describes the state of the art. It includes periodically (a) manually pulling cobs or kernels from a drying bin, (b) using laboratory equipment to measure moisture content, and (c) adjusting the drying process, if needed. It also includes a variety of methodology to measure moisture in the grain, and using such measurements to adjust the drying process.

The Hunter reference cited in the Office Action is certainly a part of the state of the art. It does disclose that, optionally, moisture sensors could be placed somewhere in the drying bins and used in the drying method. But it just as certainly does not describe or suggest any specific type of sensor; and certainly not TDR. To the inventors' knowledge, the state of the art did not include using TDR as a method of measuring moisture during an automated drying process.

On the other hand, Applicants' specification makes it clear that use of TDR to measure moisture content of soil existed at the time of the invention. The Trase reference is certainly an example from the state of the art of TDR soil moisture monitoring. It discloses a small probe that can be pushed a few inches into the ground and electrically connected to a hand-held portable processing unit. But Trase is not described or indicated by inclusion in the Applicants' specification to be a part of the state of the art of automated artificial agricultural grain and seed drying. Applicants' specification makes it clear that the state of the art of TDR does not, to their knowledge, include use to measure moisture in an automated drying system.

The Hook reference essentially discloses a modified Trase probe. It discusses at length a special configuration of the small, pronged probe of the type disclosed in Trase. Hook does

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make, in passing, a comment about granular and/or particulate materials other than soil, i.e. "sand or the like—for example, grain" (col. 2, lines 44-46), but nowhere is there any mention of use in an automated artificial drying method or process. In other words, Hook is a modification of the state of the art of the Trase soil moisture monitor. It is not a part of the state of the art of automated artificial drying of the present application.

Therefore, it is respectfully submitted that the starting point for evaluating obviousness of the present claims is devoid of any disclosure, suggestion or teaching of application of any type of TDR device or method. The complete absence of any suggestion of utilization of TDR in the state of the art Hunter reference and the complete absence of any suggestion of utilization of a soil monitor type probe of Trase or Hook in an automated artificial drying method or system defeats a prima facie case of obviousness.

Applicant also traverses any suggestion by the Office Action that there is any admission made that TDR could be used in drying methods and systems such as claimed, or is admitted to be a part of the state of the art relevant to the claimed invention. There is no evidence that the Trase reference has any disclosure or teaching of utilization of that soil moisture measuring apparatus in an automated drying method or system claimed in this application.

But further, Applicant respectfully traverses any suggestion in the Office Action that Trase or Hook suggests use in such methods or systems. For example, the Final Rejection alleges at page 3, numbered paragraph 7 that:

"Therefore, it is inherent that the TDR device disclosed in "Trase Operating Instructions" is capable of obtaining moisture content measurements of the various porous media claimed by the applicant."

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It is respectfully submitted inherency is an improper grounds for an obviousness rejection. While inherency is recognized as a basis for a § 102 anticipation rejection, there must be some teaching that can be pointed to in the reference to support its use in a prima case of § 103 obviousness rejection. It is also respectfully submitted that Trase is non-analogous to the claimed invention. It neither is in the field of the claimed invention, nor is its teaching reasonably related to the problem addressed by the Applicants' invention.

2. *Level of Skill in the Art*

It is submitted that the background of the inventors corroborated the non-obviousness of the present invention, and likewise defeats a prima facie case of obviousness.

Inventor Hunter of this application is a co-inventor of the cited Hunter reference. Therefore, use of TDR in his state of the art drying method and system was not obvious to him.

Inventor Skalling is a principle in the company that created the Trase device of the cited Trase reference. Use of his Trase device is a drying method and system was not obvious to him.

Inventor Corak was employed by the owner of the present application and had some experience with TDR. It was not obvious to him to apply TDR to the claimed drying method and system.

It was only upon collaboration of the three inventors that the invention was conceived and reduced to practice. This is submitted to support a finding that persons skilled in the state of the art did not look to TDR for the solution eventually claimed, and persons skilled in TDR of soil moisture measurement did not look to apply it in the way claimed.

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3. *The Only Teaching of Combination of TDR and Automated Artificial Drying Methods and Systems Is the Applicant's Specification and Claims*

In summary, it is respectfully submitted that there is no disclosure, and no teaching or suggestion, in any single cited reference of application of TDR to automated, artificial drying of grain and seed. Inherency is not enough. And a conclusion it would obvious to try is not enough. The suggestion cannot stem from the Applicants own disclosure. In re Ehrreich, 590 F.2d 902 (C.C.P.A. 1979).

Here the record shows that TDR has been around for years. It shows that automated artificial drying has been around for sometime. Despite this, the two arts had not converged. The record shows that it was not until an unexpected synergy from collaboration between persons from the divergent arts that the invention came into being.

Applicants' therefore respectfully request reconsideration of the obviousness rejections. The suggestion for automated drying system using moisture sensors may have existed, but not using TDR principles or probes. Again, the co-inventor of the Hunter reference is a co-inventor of the present application, and it was not obvious to use TDR to him.

It is therefore respectfully submitted that the record does not support a prima facie case that the cited references suggested their combination or suggested the claimed invention. The only suggestion of the same is Applicants' specification and claims. Thus, a prima facie case of obviousness fails because it relies in hindsight on the Applicants' own disclosure to fill in the gaps in the teachings in the art.

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4. *The Method Claims*

Reconsideration is also respectfully requested of the obviousness rejection of Applicants' method claims. The Final Rejection agrees that method claims can be patentable even if they use known apparatus (Final Rejection, pg. 6, numbered para. 17). However, as understood, it maintains the obviousness rejection on the basis that:

"the combination of known devices in this case, wherein TDR is widely used as a method of monitoring moisture content, was discussed in prior art that was available at the time of the invention."

It is respectfully submitted that this is not the correct test of whether a method is patentable under 35 U.S.C. §§100, 101. The conclusion in the Final Rejection ignores the language in Applicants' claims that the invention pertains to control of an automated artificial drying process for grain seed. In fact, it is submitted that the above-comment from the Final Rejection corroborates Applicants' other arguments. It is true that TDR has long been known as a method of measuring moisture content, but there is no evidence of record that discloses, teaches, or suggests use as sensors in an automated artificial drying process for grain or seed. There is no disclosure or teaching of whether TDR would work in an artificial drying bin. There is no disclosure or teaching whether TDR would work in the form of the soil moisture probes of Trase or Hook. The closest suggestion cited by the Examiner is Hook's comment that perhaps that TDR probe could be used with grain or sand. But there is no mention of use in artificial drying of grain or seed, whether or not attached to a carrier or other vegetation.

Again, the only disclosure that "fills the gap" in the teachings of the cited references and the Applicants' claims is the Applicants' own specification and claims. Therefore, reconsideration of the obviousness rejection is respectfully requested.

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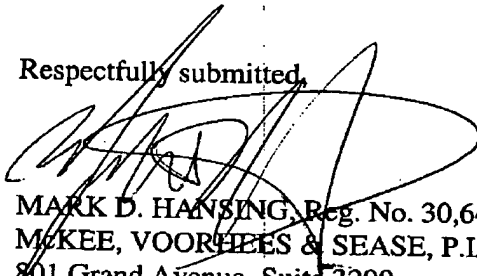
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C. Conclusion

Reconsideration and allowance is respectfully requested.

Please consider this a two month extension of time from November 14, 2003 to January 14, 2004, under the provision of 37 C.F.R. § 1.136(a) and charge Deposit Account No. 26-0084 for the amount of \$410.00. No other fees or extensions of time are believed to be due in connection with this amendment; however, consider this a request for any fees inadvertently omitted, and charge any additional fees to Deposit Account No. 26-0084.

Respectfully submitted,


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